

SYSTEM AND METHOD FOR PROVIDING IMPROVED
TRENCH ISOLATION OF SEMICONDUCTOR DEVICES

5 ABSTRACT OF THE DISCLOSURE

A system and method is disclosed for providing improved trench isolation of semiconductor devices. An isolation trench of the present invention is manufactured as follows. A substrate of a semiconductor device is provided and a trench is etched in the substrate. Then a silicon liner is grown in the trench. The trench is then filled with polysilicon material. Polysilicon material is also deposited on top of the filled trench to protect the silicon dioxide liner from the effects of subsequent etch procedures and oxidation procedures. The initial height of the polysilicon material is selected to be large enough to allow the polysilicon material to survive the subsequent etch procedures and oxidation procedures.

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